

## CLAIMS

What is claimed is:

1. A zero centerline toolholder assembly, comprising:  
a toolholder having a centerline, LT; and  
a cutting insert having a nose radius with a center, RC, the cutting  
insert mounted to said toolholder,  
5 wherein said center, RC, of the nose radius of said cutting insert is aligned  
with the centerline, LT, of said toolholder, and  
wherein said centerline, LT, of said toolholder is aligned at a non-zero angle  
with respect to an axis, P, that is substantially perpendicular to a longitudinal axis,  
LW, of a work piece.
2. The toolholder assembly of Claim 1, wherein said non-zero angle is  
between about twenty-five degrees and about forty-five degrees.
3. The toolholder assembly of Claim 1, wherein said toolholder assembly  
has a tool length of approximately 80 to 120mm.
4. The toolholder assembly of Claim 1, wherein said centerline, LT, of  
said toolholder is substantially aligned with a rotational axis, CT<sub>2</sub>, of said toolholder  
assembly.
5. A zero centerline toolholder assembly, comprising:  
a toolholder having a centerline, LT; and  
a cutting insert having a nose radius with a center, RC, the cutting  
insert mounted in an insert pocket of said toolholder,  
5 wherein said center, RC, of the nose radius of said cutting insert lies on said  
centerline, LT, of said toolholder, and  
wherein said centerline, LT, of said toolholder is aligned at a non-zero angle  
with respect to an axis, P, that is substantially perpendicular to a longitudinal axis,  
LW, of a work piece.

6. The cutting tool of Claim 5, wherein said non-zero angle is between about twenty-five degrees and about forty-five degrees.

7. The cutting tool of Claim 5, wherein said toolholder assembly has a tool length of approximately 80 to 120mm.

8. The toolholder assembly of Claim 5, wherein said centerline, LT, of said toolholder is substantially aligned with a rotational axis, CT<sub>2</sub>, of said toolholder assembly.

9. A method of forming a zero centerline toolholder assembly, comprising:

aligning a center, RC, of a nose radius of a cutting insert with a centerline, LT, of a toolholder; and

5 aligning the centerline, LT, of the toolholder at a non-zero angle with respect to an axis, P, that is substantially perpendicular to a longitudinal axis, LW, of a work piece.

10. The method of Claim 9, wherein said non-zero angle is between about twenty-five degrees and about forty-five degrees.

11. The method of Claim 9, wherein said toolholder assembly has a tool length of approximately 80 to 120mm.

12. The method of Claim 9, further including the step of aligning said centerline, LT, of said toolholder with a rotational axis, CT<sub>2</sub>, of said toolholder assembly.